Attachment 1

WDEQ 1999 Water Quality
Monitoring Schedule

This document was developed from Wyoming Department of Environmental Quality (WDEQ) memoranda coordinating the State's monitoring program for 1999. It is organized around three working regions as follows:

1999 Monitoring Schedule, Cheyenne/Casper Personnel

Lanny Goyn - WQD, Cheyenne;
Matt Jankovski- WQD, Cheyenne;
Eric Felbeck - WQD, Casper

Here is a run down of the monitoring to be done by the Cheyenne/Casper staff. This year's monitoring will be concentrated in the southeast and northeast corners of the State and once again in the Powder River Basin. This work breakout suggests dividing into two work units. One group will work on the waterbodies in the southeast and northeast while the second group will concentrate on the southern Powder River Basin waterbodies. The Powder River Basin group will also be working quite closely with the Sheridan crew as they will be concentrating in the basin immediately to the north. At this time, it is not known if funding will be available for interns this field season.

I can't stress the importance of doing the Pre-Monitoring Evaluations prior to landowner contact or site selection. An example of a completed Pre-Monitoring Evaluation (Wind River) is contained in the Beneficial Use Reconnaissance - Wadable Stream Monitoring Methodology document. Skeleton pre-monitoring evaluation forms for new 1999 waterbodies are attached. Hopefully, these attachments will expedite the completion of these forms and your development of monitoring strategy. I have divided these out between Casper (Powder River watershed) and Cheyenne (South Platte and North Platte watersheds) for completion.

Some of the segments scheduled for monitoring in 1999 have USGS stations where quarterly water quality data are being collected. If the location of one of these USGS stations fit into the monitoring strategy, I suggest the establishment of a BURP station as near the station as the physical nature of the stream allows. This will give us seasonal water quality data to look at as part of the assessment. Most of the streams listed on the 303(d) list of impaired water bodies (Table A) have these stations. Additional streams contained in our BURP monitoring program with such stations are identified with three asterisks (***).

As was the case last year, the timing is only an estimate based on location and size. Basically, I looked at waters with lower elevation headwaters for initial sampling, followed by early fall sampling of high elevation streams, followed lastly by low elevation waters with high elevation headwaters at the end of the sample period. Items to keep in mind, but you will be making a lot of in-field decisions on "when to schedule" (runoff, precipitation events, etc.).

We will again have Conservation District personnel accompanying our crews this summer as part of their training. Additionally, we may have some trained Conservation Districts that want to initiate their monitoring this field season. I suggest that you keep in contact with Chuck and myself to get information on having CD staff people with us in the field.

One item not found in this schedule are those streams monitored in 1998 that need revisiting in 1999. The decision to revisit a site will depend upon our review of the complete data set. These reviews should take place in May or June 1999.

Monitoring Program Waterbodies (Table E Waters)

Water bodies presented in *italics* in the table are ones that were scheduled for completion in 1998 but were either not worked or not completed. These waterbodies are a **high priority** and need to be completed in 1999. Those that were partially completed, please reestablish the 1998 station(s) along with the establishment of those stations necessary for a complete assessment. The 1998 and 1999 data can be used to look at annual variation. Monitoring of the Little Missouri River and North Fork Little Missouri has been suspended until the year 2000 to allow us to build better relationships in this watershed.

Please note that two segments of Spotted Horse Creek, scheduled for assessment in 1998, are not on the Cheyenne/Casper schedule for 1999. These two segments have been moved to the Sheridan Office because of their scheduled activity in that area. Please send the landownership and access information you have to Mark Rogaczewski in Sheridan.

Two "Fourmile" Creeks are listed in this schedule. Segment 055-2 was scheduled for monitoring in 1998 and segment 053-2 scheduled for monitoring this season. It appears that segment 053-2 was inadvertently sampled in 1998. Please check the pre-monitoring evaluation sheets attached, verify the creek monitored last season, and schedule the "other Fourmile Creek" for 1999.

I have identified (*) those segments where we have collected at least one station's worth of data during our past Reference Stream monitoring work. If you feel the location of these sites fit into the necessary water body assessment strategy, try and reestablish the site if possible. The logic behind this is three-fold: we can have data that give us an idea of annual variation; we know that there is a suitable riffle section at the location; and, we have received landowner consent to enter the property in the past (we still need to contact those individuals this year).

There are several streams in your schedule that are not on either the 303(d) or monitoring program (Table E) lists. These water bodies were nominated with inconclusive information during the 1998 303(d) listing public notice period. One of those water bodied, South Fork of the Powder River was identified because of old selenium data. Selenium samples need to be collected on this river. I suggest a single station on the main stem immediately above the confluence with the Middle Fork. This station will also help us determine sources of chloride in the main stem of the Powder River. The second water body is Silver Springs Creek near Lusk.

This creek was incorrectly identified as Silver Creek in Carbon County. Silver Creek (Carbon Co.) was delisted in 1998 and Silver Springs Creek was identified for the monitoring program. If this creek is perennial, I suggest a station located near the confluence with the Niobrara River. The South Fork of the Powder River and Silver Springs Creek have been identified in Table 1 with two asterisks (**).

The Cheyenne and Casper crews will look at several streams in the Powder River watershed that may be dry at the time of investigation. If so, please make certain that there are good notes and photo documentation of things such as intermittent pools, adjacent wetlands, bank stability, and signs of sediment transport to perennial receiving waters.

Table 1. Stream Segments with Secondary or Inconclusive Data Requiring BURP Monitoring.

Basin	**HUC ID**	**Name**	**Segment**	**Conser. Dist.**	**Timing ?**
Belle Fourche	10120203	Sundance Fairgrounds Pond (Lake Protocols)	147-1	Devils Tower	April
Powder	*10090201*	*Powder R., M. Fk.*	*030-3*	*Powder River*	*Sept.*
Powder	*10090201*	*Powder R., N. Fk.*	*068-2*	*Powder River*	*Sept.*
Powder	*10090201*	*Powder R., Red Fk.*	*070-2*	*Powder River*	*Sept.*
Powder	*10090201*	*Bear Trap Cr.*	*071-2*	*Powder River*	*Late Sept.*
Powder	*10090201*	*Bear Trap Cr.**	*322-1*	*Powder River*	*Late Sept.*
Powder	*10090201*	*Beaver Cr.*	*072-2*	*Powder River*	*Late Sept.*
Powder	*10090201*	*Arch Cr.*	*301-1*	*Powder River*	*Late Sept.*
Powder	*10090201*	*Pass Cr.*	*303-1*	*Powder River*	*Late Sept.*
Powder	10090202	Powder R.	018-4	Powder River	Oct.
Powder	*10090202*	*Pumpkin Cr.*	*049-2*	*Powder River*	*Oct.*
Powder	*10090202*	*Fourmile Cr.*	*055-2*	*Powder River*	*Oct.*
Powder	10090202	Fifteenmile Cr.	201-1	Powder River	Oct.
Powder	10090202	Fourmile Cr.	053-2	Powder River	Oct.
Powder	10090203	Powder R., South Fk.**	032-3	Powder River	Late Aug.

Powder	10090203	Posey Cr.	281-1	Powder River	Late Aug.
Powder	*10090204*	*Castle Cr.*	*076-2*	*Natrona Co.*	*Sept*
Powder	*10090204*	*Meadow Cr.**	*256-1*	*Powder River*	*Sept.*
S. Platte	*10190009*	*Crow Cr.**	*002-3*	*Laramie Co.*	*EarlyOct.*
N. Platte	10180009	North Platte R. (Large River Protocols)***	001-5	N. Platte Valley	Oct.
N. Platte	*10180011*	*Chugwater Cr.**	*059-3*	*Platte County*	*Oct.*
N. Platte	10180012	Bear Cr.	055-3	S. Goshen	Sept.
N. Platte	10180012	Bear Cr.	056-3	S. Goshen	Sept.
N. Platte	10180012	Bear Cr.	100-2	S. Goshen	Sept.
N. Platte	10180012	Bear Cr.	234-1	Laramie Co.	Sept.
N. Platte	10180012	Horse Cr.	019-4	S. Goshen	Late Sept.
Niobrara	10150002	Silver Springs Cr. **	647-1	Niobrara	Late Sept.

* Segment has station established as part of the Reference Stream Project.
** Segment identified for monitoring in 1998
*** Segment has a USGS surface water monitoring station collecting water quality data

Monitoring Impaired Waterbodies (Table A Waters)

BURP level monitoring was conducted on five "high" priority 303(d) Table A sites in 1998. Analysis of those data will determine if we need to revisit those sites to determine sources of impairment. Additional fecal bacteria monitoring will be necessary on the Belle Fourche River and Crow Creek beginning in May. I suspect more monitoring will also be necessary on the other sites. After last year's monitoring, you most likely have some good ideas on where to sample in order to partition out the sources. There is going to be a minor change to the fecal bacteria monitoring proposal this year. The change will hopefully address outside concerns expressed about our single, one time grab sample colony count methodology. The suggested change to the single grab sample involves taking triplicate samples and then arriving at a 1 hour geometric mean count. I will be getting with you to discuss those logistics and changes.

This year's scheduled monitoring (South Powder River and downstream segments of the Powder River's main stem) may also provide additional information on the Powder River's chloride impairment. Incidently, the USGS station on the Powder River at Sussex picked up elevated selenium on March 20, 1998. The 6μg/l instantaneous sample was slightly higher than DEQ's chronic (four day average) standard of 5μg/l. Please include selenium in your sampling

of South Powder River and the main stem of the Powder.

There are no additional Table A waters being added to the schedule for 1999.

Table 2. Stream Segments Requiring Monitoring for TMDL Development (Table A).

Basin	HUC ID	Name (Impairment)	Segment	Conser. Dist.	Timing
Belle Fourche	10120201	Belle Fourche R.*** (Fecal bacteria)	004-4	Devils Tower	May/June
Belle Fourche	10120201	Belle Fourche R.*** (Fecal bacteria)	009-4	Devils Tower	May/June
N. Platte	10180011	Wheatland Cr.*** (NH3)	311-1	Platte Co.	July
Powder	10090202	Powder R.*** (Chloride)	020-4	Powder River	Oct.
S. Platte	10190009	Crow Cr.*, *** (Fecal, NH3, Cd)	001-3	Laramie Co	May/June

*Segment has station established as part of the Reference Stream Project.
***USGS Station collecting water quality data.

Waterbody Monitoring for Waste Load Allocation Development

Last year, I presented in "Table 3" those waterbodies where monitoring was necessary to aid in the formulation of more accurate waste load allocation TMDLs. A listing will again be presented this year. The permitting staff is presently working on this list and those waterbodies will be forwarded to you at a later date. As was the case last year, monitoring at these sites involves conducting the NPDES inspection, collecting ambient water quality samples immediately above the discharge point, and collecting water quality samples in the mixing zone below the discharge point. Parameters collected will be given by the permitting staff but generally include field parameters and those effluent parameters found in the discharge permit. If the permitting staff is looking at the addition of a new effluent parameter, such notation will be provided.

Monitoring of Threatened Waterbodies (Table C Waters)

Salt Creek was monitored during 1998. Monitoring summaries indicate that monitoring was completed on that segment. Analysis of those data may indicate additional monitoring is necessary for this creek. Salt Creek will remain in the Table 4 monitoring necessary for threatened waters until the decision is made that sufficient data are available. One additional threatened water, McMasters Reservoir, has been identified in the area you will cover during

1999. McMasters Reservoir will require use of Lake/Reservoir/Pond protocols, currently under development.

Table 4. Monitoring Necessary for Threatened Waterbodies (Table C Waters).

Basin	HUC ID	Name (Threat)	Segment	Conser. Dist.	Timing
Powder	10090204	Salt Cr.*, *** (Oil Spills, TDS)	035-3	Powder River	Sept.
Niobrara	10150002	McMasters Resv. (Fish Kills) Lake/Resv Protocols	664-3	Niobrara	April

*Segment has station established as part of the Reference Stream Project.
***USGS Station collecting water quality data

Long Term Trend Reference Site Monitoring

We also need to continue monitoring our Long Term Trend Reference Sites. There are seven of these located within the area covered from the Cheyenne Office. There has been some discussion on whether Crow Creek should be used as a long term trend site. Because of the proximity to Cheyenne, I propose that this site be relocated and monitored. That second set of data can assist us in making the final determination of this sites applicability as a long term trend site.

Table 4. Long Term Trend Reference Sites Requiring Monitoring in 1999.

Ref. ID	Reference Stream Name	County	Location	Timing
SR3	Rock Creek	Carbon	Sec. 36, T19, R79	Sept.
SR15	Encampment R. -Wildern.	Carbon	Sec. 15, T12, R84	Sept.
SR16	N. Fk. Little Snake R.	Carbon	Sec. 14, T12, R86	Sept.
WB3	Little Laramie R.	Albany	Sec. 1 , T15, R77	Sept.
WBI4	Deweese Cr.	Carbon	Sec. 13, T27, R85	Sept.
WHPI6	Crow Cr.- Cheyenne Sta.6	Laramie	Sec. 26, T14, R67	Sept.
MRE1	Whitelaw Cr. - Upper	Crook	Sec.9, T52 , R63	Sept.

Hopefully, this will give you a better idea of the office work we need to begin working on this spring and the subsequent summer and fall work load.

1999 Monitoring Schedule, Lander Personnel

Glen Garton - WQD, Lander;
Tavis Eddy - WQD, Lander

Here is a run down of the monitoring to be done by Lander staff in 1999. This year's monitoring will be concentrated in the upper Wind River and Popo Agie River watersheds. There will also be some large river work on the Green and Shoshone Rivers. The Popo Agie Conservation District has received funding to implement a watershed monitoring program as part of their watershed plan. We will probably be doing a fair amount of joint work with that district in the basin. At this time, it is not known if funding will be available for interns this coming field season.

Skeleton pre-monitoring evaluation forms for the new 1999 water bodies are attached. Hopefully, these attachments will expedite the completion of these forms and your development of monitoring strategy.

Some of the segments scheduled for monitoring in 1999 have USGS stations where quarterly water quality data are being collected. If the location of one of these stations fits into the monitoring strategy, I suggest the establishment of a BURP station as near each of these stations as the physical nature of the stream allows. This will give us seasonal water quality data to look at as part of the assessment. Most of the streams listed on the 303(d) list of impaired water bodies (Table A) have these stations. Additional streams contained in our BURP monitoring program with such stations are identified with three asterisks (***).

As was the case last year, the timing is only an estimate based on location and size. Basically, I looked at waters with lower elevation headwaters for initial sampling, followed by early fall sampling of high elevation streams, followed lastly by low elevation waters with high elevation headwaters at the end of the sample period. Items to keep in mind, but you will be making a lot of in-field decisions on "when to schedule" (runoff, precipitation events, etc.).

We will again have Conservation District personnel accompanying our crews this summer as part of their training. We will probably have people from other agencies wanting to accompany us this fall. I will keep you posted of these situations.

One item not found in this schedule are those streams monitored in 1998 that need revisiting in 1999. The decision to revisit a site will depend upon our review of the complete data set.

These reviews should take place in May or June 1999.

Monitoring Program Water Bodies (Table E Waters)

Water bodies presented in *italics* in the table are ones that were scheduled for completion in 1998 but were either not worked or not completed. These water bodies are a **high priority** and need to be completed in 1999. Those that were partially completed, please reestablish the 1998 station(s) along with the establishment of those stations necessary for a complete assessment. The 1998 and 1999 data can be used to look at annual variation.
I have identified (*) those segments where we have collected at least one station's worth of data during our past Reference Stream monitoring work. If you feel the location of these sites fit into the necessary water body assessment strategy, try and reestablish the site if possible. The logic behind this is three-fold: we can have data that give us an idea of annual variation; we know that there is a suitable riffle section at the location; and, we have received landowner consent to enter this property in the past (we still need to contact these individuals this year).

There are three streams (identified by **) in your schedule that are not on either the 303(d) or monitoring program (Table E) lists. These water bodies were determined to have inconclusive information during the 1998 303(d) listing public notice period, or have other surface water quality concerns. The unnamed tributary to Brooks Lake Creek was nominated by the U.S. Forest Service in 1998 but had incomplete data. For this water body, I suggest the establishment of a single station on the main water body where it enters Brooks Lake. The Sweetwater River involves monitoring above and below the area of possible groundwater communication with the river near the Split Rock uranium mill tailings site. Review of groundwater monitoring data on file with GPC and the Land Quality Division will help in the formulation of the specific monitoring program.

Table 1. Stream Segments with Secondary or Inconclusive Data Requiring BURP Monitoring.

Basin	**HUC ID**	**Name**	**Segment**	**Conser. Dist.**	**Timing ?**
Big Horn/Wind	10080001	Wind River (Large River Protocol)	014-5	Dubois/Crow-heart	Early Sept.
Big Horn/Wind	10080001	Wind River	074-3	Dubois/Crow-heart	Early Sept
Big Horn/Wind	10080001	Wind River	167-2	Dubois/Crow-heart	Early Sept
Big Horn/Wind	10080001	Wind River, East Fork	070-3	Dubois/Crow-heart	Late Sept.
Big Horn/Wind	10080001	Wind River, East Fork	173-2	Dubois/Crow-heart	Late Sept.

Big Horn/Wind	10080001	Horse Creek	171-2	Dubois/Crow-heart	Early Sept
Big Horn/Wind	10080001	Bear Creek	172-2	Dubois/Crow-heart	Late Sept.
Big Horn/Wind	10080001	Bear Creek	591-1	Dubois/Crow-heart	Late Sept.
Big Horn/Wind	10080001	Trappers Creek	566-1	Dubois/Crow-heart	Early Sept
Big Horn/Wind	10080001	Warm Springs Creek	567-1	Dubois/Crow-heart	Early Sept
Big Horn/Wind	10080001	Castle Creek	594-1	Dubois/Crow-heart	Late Sept.
Big Horn/Wind	10080001	Unnamed Tributary to Brooks Lake**	???-1	Dubois/Crow-heart	Late Aug.
Big Horn/Wind	10080002	Beaver Creek	486-1	Popo Agie	Late Sept.
Big Horn/Wind	10080002	Little Beaver Creek	723-1	Popo Agie	Late Sept.
Big Horn/Wind	10080003	Popo Agie River (*)(***)	077-3	Popo Agie	Oct.
Big Horn/Wind	10080003	Twin Creek*	145-2	Popo Agie	Oct.
Big Horn/Wind	10080003	Deep Creek	146-2	Popo Agie	Oct.
Big Horn/Wind	10080003	Popo Agie River, Middle Fork*	148-2	Popo Agie	Oct.
Big Horn/Wind	10080003	Willow Creek	522-1	Popo Agie	Oct.
Big Horn/Wind	10080003	Beason Creek	722-1	Popo Agie	Oct.
Big Horn/Wind	10080014	Shoshone R. (Large River Protocols)	020-4	Cody	Oct.
North Platte	10180006	Sweetwater River**	051-4	Popo Agie	Late Aug.

		(Split Rock Mill)			
Green	*14040101*	*Green R. (Large River Protocols)*	*012-4*	*Lincoln Co*	*Oct.*
Green	*14040101*	*Green R. (Large River Protocols)*	*013-4*	*Sublette Co.*	*Oct.*
Green	*14040102*	*Pole Cr.*	*238-1*	*Sublette Co.*	*Oct.*
Green	*14040103*	*Green R. (Large River Protocols)*	*009-4*	*Big Sandy*	*Oct.*
Green	14040105	Bitter Creek (Fecal Bacteria Sampling)	024-3	Big Sandy	May/June
Green	14040106	Flaming Gorge Resv. (Lake Protocols)	001-5	Big Sandy	April
Bear	*16010101*	*Sulphur Cr.*	*016-2*	*Uinta Co.*	*Late Sept.*
Bear	*16010102*	*Bear R.*** (Large River Protocols)*	*003-2*	*Lincoln Co.*	*Late Sept.*

*Segment has station established as part of the Reference Stream Project.
**Segment identified for monitoring in 1998
***Segment with USGS water quality monitoring station

Monitoring Impaired Water Bodies (Table A Waters)

BURP level monitoring has been conducted on the two Lander area "high" priority sites placed on the 303(d) list of impaired waters. Our 1998 pH and BURP monitoring of the Hams Fork River did not identify elevated pH values. The Lincoln County Conservation District will most likely be gearing up to do pH monitoring on the river this year. We will continue to conduct opportunistic pH monitoring whenever in the Kemmerer area (coal inspections for example).

Crooks Creek will require some GPS work done this spring in order to delineate the extent of the oil deposits found on the creek bottom. That work is scheduled for early this spring.

There are no additional Table A waters being added to the schedule for 1999.

Table 2. Stream Segments Requiring Monitoring for TMDL Development (Table A).

Basin	**HUC ID**	**Name (Impairment)**	**Segment**	**Conser. Dist.**	**Timing**
Green R.	14040107	Green R., Hams Fk. (pH)	020-3	Lincoln Co.	July - Oct.

N. Platte R.	10180006	Crooks Cr. (Extent of Oil Deposits)	678-2	Popo Agie	April

Water Body Monitoring for Waste Load Allocation Development

Last year, I presented in "Table 3" those water bodies where monitoring was necessary to aid in the formulation of more accurate waste load allocation TMDLs. A listing will again be presented this year. The NPDES permitting staff is presently working on this list and those water bodies will be forwarded to you at a later date. As was the case last year, monitoring at these sites involves conducting the NPDES inspection, collecting ambient water quality samples immediately above the discharge point, and collecting water quality samples in the mixing zone below the discharge point. Parameters collected will be given by the permitting staff but generally include field parameters and those effluent parameters found in the discharge permit. If the permitting staff is looking at the addition of a new effluent parameter, such notation will be provided.

Monitoring of Threatened Water bodies (Table C Waters)

All threatened waters (Table C) in the area covered by the Lander staff are associated with watershed improvement plans. Monitoring of these waterbodies is being conducted by the group implementing the plan.

Long Term Trend Reference Site Monitoring

Again, we need to continue monitoring our Long Term Trend Reference Sites. There are six of these located within the area covered from the Lander Office.

Table 4. Long Term Trend Reference Sites Requiring Monitoring in 1999.

Ref. ID	**Reference Stream Name**	**County**	**Location**	**Timing**
WB23	Fontenelle Cr. - Lower	Lincoln	Sec. 2, T.24N., R.113W.	Sept.
WB28	New Fork R. - Bull Pasture	Sublette	Sec. 24, T.34N., R.110W.	Sept.
MRW56	W.Fk. Smiths Fork	Uinta	Sec.10, T.12N., R.116W.	Sept.
MRW1	Cache Cr.	Teton	Sec.1, T.40N., R.116W.	Sept.
MRW3	Snake R. - Flagg Ranch	Teton	Sec.28, T.48N., R.115W.	Sept.

MRW-17	Roaring Fk.	Sublette	Sec.10, T.39N., R.109W.	Sept.

1999 Monitoring Schedule, Sheridan Personnel

Mark Rogaczewski- WQD, Sheridan;

Here is a summary of the monitoring to be done by Sheridan staff in 1999. This year's monitoring will be concentrated in the lower reaches of the Powder River Basin. In addition, we will be beginning the first year of a 2-year in-depth look at the effects of coalbed methane discharges to surface systems in the Powder River Basin. Other staff members will be assisting in doing this coalbed methane work. Additional information on the coalbed methane sampling program will be forth coming. At this time, it is not known if funding will be available for interns this field season.

Skeleton pre-monitoring evaluation forms for the new 1999 water bodies are attached. Hopefully, these attachments will expedite the completion of these forms and your development of monitoring strategy. An example of a completed Pre-Monitoring Evaluation (Wind River) is contained in the Beneficial Use Reconnaissance - Wadable Stream Monitoring Methodology document.
Some of the segments scheduled for monitoring in 1999 have USGS stations where quarterly water quality data are being collected. I suggest the establishment of BURP stations as near these stations as the physical nature of the stream allows. This will give us seasonal water quality data to look at as part of the assessment. Most of the streams listed on the 303(d) list of impaired water bodies (Table A) have these stations. Additional streams contained in our BURP monitoring program with such stations are identified with three asterisks (***).

As was the case last year, the timing is only an estimate based on location and size. Basically, I looked at waters with lower elevation headwaters for initial sampling, followed by early fall sampling of high elevation streams, followed lastly by low elevation waters with high elevation headwaters at the end of the sample period. Items to keep in mind, but you will be making a lot of in-field decisions on "when to schedule" (runoff, precipitation events, etc.).

We will again have Conservation District personnel accompany our crews this summer as part of their training. Additionally, we may have some trained Conservation Districts that want to initiate their monitoring this field season. I suggest that you keep in contact with Chuck and myself to get information on having CD staff people with us in the field.

One item not found in this schedule are those streams monitored in 1998 that need revisiting in 1999. The decision to revisit a site will depend upon our review of the complete data set. These reviews should take place in May or June 1999.

<u>Monitoring Program Water Bodies (Table E Waters)</u>

Water bodies presented in *italics* in the table are ones that were scheduled for completion in

1998 but were not worked. These water bodies are a **high priority** and need to be completed in 1999.
The Sheridan crew will have assessment responsibility for the two segments of Spotted Horse Creek. These two segments were originally scheduled for completion by the Cheyenne/Casper crews in 1998 but were not gotten to. The Cheyenne/Casper people have conducted land ownership research and have received some landowner consent on this creek. Please contact them for that information.

I have identified (*) those segments (hopefully all of them) where we have collected at least one station's worth of data during our past Reference Stream monitoring work. If you feel the location of these sites fit into the necessary water body assessment strategy, try and reestablish the site if possible. The logic behind this is three-fold: we can have data that give us an idea of annual variation; we know that there is a suitable riffle section at the location; and, we have received landowner consent to enter the property in the past.

One "new" segment has been added to the monitoring program for 1999. Hanging Woman Creek is not on the department's 303(d) list or in the monitoring program (Table E). The State of Montana has Hanging Woman Creek listed as impaired up to the Wyoming state line. Probable impaired uses are aquatic life support, agriculture, and warm water fishery. Probable causes of impairment are flow alteration, metals, and salinity/TDS/chlorides from irrigated crop production and natural sources. Assessment of this creek will provide us and Montana with data on whether the impairment reaches the state line or not. Hanging Woman Creek (no segment id) and West Prong Hanging Woman Creek (010-2) meet just north of the border to form the main stem of Hanging Woman Creek (009-2). I would suggest one station on both Hanging Woman Creek and West Prong, as close to the state line as possible. This should be sufficient to answer initial questions. Total Dissolved Solids (TDS) should be added to the suite of parameters.

Monitoring at the USGS station on Clear Creek above Kumor Draw showed elevated ammonia levels on February 2, 1998, (0.24 mg/l at pH 7.9) and elevated fecal coliform bacteria on August 19, 1998, (470 colonies/100 ml.). The Buffalo wastewater treatment plant is a priority 2 for NPDES inspection and will be a higher priority after July 1, 1999. Please conduct an NPDES inspection of this facility in conjunction with the BURP work on Clear Creek. Please also include ammonia and fecal bacteria to the Clear Creek assessment (immediately above and below Buffalo) this season.

Your crew will look at a couple of Class 4 tributaries to the Powder River. There is a good chance that these will be dry at the time of investigation. If so, please make certain that there are good notes and photo documentation of things such as intermittent pools, adjacent wetlands, bank stability, and sediment transport to the perennial receiving waters.

Table 1. Stream Segments with Secondary or Inconclusive Data Requiring BURP Monitoring.

Basin	HUC ID	Name	Segment	Conser. Dist.	Timing ?

Tongue	*10090101*	*Soldier Cr.*	*047-1*	*Sheridan Co.*	*Late Aug.*
Tongue	10090101	Hanging Woman Cr.***	009-2	Sheridan Co.	Early Sept.
Powder	*10090202*	*Spotted Horse Cr.*	*044-2*	*Sheridan Co*	*Late Aug.*
Powder	*10090202*	*Spotted Horse Cr.*	*172-1*	*Campbell Co.*	*Late Aug.*
Powder	10090202	Barber Cr.	047-2	Lake DeSmet	Late Aug.
Powder	10090202	Flying E Cr.	311-1	Lake DeSmet	Late Aug.
Powder	10090202	Fortification Cr.	183-1	Lake DeSmet	Late Aug.
Powder	10090202	Powder R. (Large River Protocols)	003-5	Sheridan Co.	Oct.
Powder	10090202	Powder R. (Large River Protocols)	004-5	Sherdian Co.	Oct.
Powder	10090202	Powder R.(Large River Protocols)	006-5	Sheridan Co.	Oct.
Powder	10090202	Powder R.	015-4	Lake DeSmet	Oct.
Powder	10090202	Powder R.	016-4	Lake DeSmet	Oct.
Powder	10090202	Powder R.	017-4	Powder River	Oct.
Powder	*10090205*	*Crazy Woman Cr.**	*014-4*	*Lake DeSmet*	*Early Sept.*
Powder	*10090205*	*Crazy Woman Cr., S. Fk.*	*029-3*	*Lake DeSmet*	*Early Sept.*
Powder	*10090205*	*Crazy Woman Cr., S. Fk.*	*067-2*	*Lake DeSmet*	*Early Sept.*
Powder	*10090206*	*Clear Cr.*	*007-4*	*Lake DeSmet*	*Sept.*
Powder	*10090206*	*Clear Cr.*	*008-4*	*Lake DeSmet*	*Sept.*
Powder	*10090206*	*Clear Cr.*	*009-4*	*Lake DeSmet*	*Sept.*
Powder	*10090206*	*Clear Cr.*	*010-4*	*Lake DeSmet*	*Sept.*
Powder	*10090206*	*Clear Cr.**	*011-4*	*Lake DeSmet*	*Sept.*
Powder	10090207	Powder R. (Large River Protocols)	001-5	Campbell Co.	Oct.

Powder	10090207	Powder R. (Large River Protocols)	002-5	Sheridan Co.	Oct.
Powder	10090208	Little Powder R.***	021-4	Campbell Co.	Oct.

*Segment has station established as part of the Reference Stream Project.
** Segment chosen in order to arrive at a more complete watershed assessment.
***Segment has a USGS surface water monitoring station collecting water quality data.

Monitoring Impaired Water Bodies (Table A Waters)

BURP level monitoring was conducted by the Sheridan crew on two "high" priority, Table A Impaired waterbodies in 1998. It appears that additional fecal coliform bacteria sampling will be necessary on both Big Goose and Little Goose Creeks this spring. A sampling plan will need to be formulated for that sampling in the near future.

The Gillette Fishing Lake is scheduled for monitoring in 1999. Lake protocols will be necessary on this water body. We will be working very closely with the Campbell County Conservation District on the monitoring of this water body. That agency may assume complete monitoring efforts. Chuck and I will keep you informed on this situation.

Table 2. Stream Segments Requiring Monitoring for TMDL Development (Table A).

Basin	**HUC ID**	**Name (Impairment)**	**Segment**	**Conser. Dist.**	**Timing ?**
Tongue	10090101	Big Goose Cr. (Fecal)	006-3	Sheridan Co.	May/June
Tongue	10090101	Little Goose Cr. (Fecal)	020-2	Sheridan Co.	May/June
Belle Fourche	10120201	Gillette Fishing Lake (Lake Protocols)	150-2	Campbell Co.	April/May

Water Body Monitoring for Waste Load Allocation Development

Last year I presented in "Table 3" those water bodies where monitoring was necessary to aid in the formulation of more accurate waste load allocation TMDLs. A listing will again be presented this year. The NPDES permitting staff is presently working on this list and those water bodies will be forwarded to you at a later date. As was the case last year, monitoring at these sites involves conducting the NPDES inspection, collecting ambient water quality samples immediately above the discharge point, and collecting water quality samples in the mixing zone below the discharge point. Parameters collected will be given by the permitting staff but generally include field parameters and those effluent parameters found in the discharge permit. If the permitting staff is looking at the addition of a new effluent parameter, such notation will

be provided.

Monitoring of Threatened Water Bodies (Table C Waters)

All threatened waters (Table C) in the area covered by the Sheridan staff are associated with watershed improvement plans. Monitoring of these water bodies is being conducted by the group implementing the plan.

Long Term Trend Reference Site Monitoring

We will continue monitoring our Long Term Trend Reference Sites. There are six of these located within the area covered from the Sheridan Office. Make certain two people do the monitoring of the Middle Creek and Crow Creek reference sites due to their location in grizzly bear country.

Table 4. Long Term Trend Reference Sites Requiring Monitoring in 1998.

Ref. ID	**Reference Stream Name**	**County**	**Location**	**Timing ?**
MRC18	Little Bighorn R.	Sheridan	Sec. 20, T58, R89	Late Sept.
MRC26	N. Fk. Crazy Woman Cr.	Johnson	Sec. 36, T49, R84	Sept.
MRC24	Tongue R.	Sheridan	Sec. 10 , T56, R84	Sept.
MRCI29	Muddy Cr. - Middle	Johnson	Sec. 35, T49, R83	Sept.
MRW45	Middle Cr.	Yel. NP	Sec. 18, T52, R109	Sept.
MRW18	Crow Cr.	Park	Sec. 3, T52, R109	Sept.

ATTACHMENT 2

WATER QUALITY MONITORING/WATERSHED PLANNING COORDINATION

1)WATER BODY NAME	2)SEGMENT NUMBER	3)MONITORING COORDINATION	4)WATERSHED PLAN

1. NAME OF THE WATER BODY--enter the water body name as shown in the State's Table E, 1998 List of Water bodies to be Monitored (if it is in error enter the correct name as well).

2. SEGMENT NUMBER--enter the alpha-numeric identifier for the segment from Table E, 1998 List of Water bodies to be Monitored.

3. MONITORING COORDINATION--enter "PFC" if you plan to conduct PFC inventory on the water body during the same period that WDEQ plans to conduct its Beneficial Use Reconnaissance Process (BURP) inventory. Enter "DATA NEEDED" if you are have immediate BURP data needs (e.g., you are working on a CRM/watershed plan on a water body or have a major water problem in an allotment being assessed), but WDEQ has not scheduled the water body for inventory this year.

4. WATERSHED PLAN–enter the name of the proposed CRM watershed plan (if available) or stream name and approximate acreage of any watershed planning efforts that are just being started or are planned in the near future; these should include streams which were listed in the 1998 303(d) Tables, are scheduled for monitoring in the near future, and which you feel have water quality problems (or related resource values problems, e.g., PFC, stream function, etc.) which require a more immediate cooperative planning effort with WDEQ.

WATER RESOURCES PROGRAM REVIEW AND COORDINATION MEETING

April 20 & 21, 1999
Day 1 - 9 a.m. to 5 p.m.; Day 2 - 8a.m. to 12 p.m.
Antelope Room at the Regional Wyoming Game and Fish Office
3030 Energy Lane, Casper, Wyoming (473-3400)

Attendee preparations:

– FO Water Resource Management Coordinators will be prepared to share information regarding: planned allotment assessments where water issues may exist; PFC inventory; related activities; and, anticipated watershed planning efforts for FY99-2000.

– Attendees should try to bring hip waders, water, clip board, and any other items typically needed for field work.

DAY 1 AGENDA:

9:00 Introduction

REVIEW OF THE RECENT EVENTS IN THE WATER PROGRAM: Schuler

9:15 TMDL lawsuit and State's program development

-305b reports*
-303d lists/maps*
-TMDL Implementation Plan*
-Water Quality Monitoring Plan*
-Credible Data Criteria*
-Revision of Chapter 1 Rules and Regs*

9:45 BLM's Guidance and Cooperation

-Pertinent CWA sections, Executive Orders and Manual sections
-Sharing PFC, WQ, and macro data with DEQ
-Developing interim Standard #5 guidance*
-Input to the Monitoring Plan development
-Allotment assessments and data sharing*
-Establishment of Water Resource Coordination Contacts*
-Distribution of WDEQ/WQD Guidance Notebooks
-Continued partnering in 319 watershed projects
-Coop in developing a 5^{th} and 6^{th} level GIS watershed map

10:30 Break

DETAILS OF WDEQ'S WATER QUALITY PROGRAMS:
WDEQ speakers will include Chuck Harnish, Jack Smith, Bill DiRienzo, Kevin Frederick, and Mark Conrad

10:45 TMDL Program

-Stream Classifications (tributary rule, process for determination, link with standards)
-Beneficial uses (review of historic data to establish uses)
-Water Quality Standards (numeric, narrative, anti-degradation, etc.)
-Credible data criteria (primary and secondary, the new Credible Data law)*
-305(b) Water Quality Assessment Report (preparation schedule and application)
-Reference stream monitoring program and data use (developing matrices)
-Impairment determination (criteria and process used, utilization of PFC in the listing process)

11:45 Lunch on your own

12:45 -303(d) List (current status of 303(d), development schedule, process for prioritizing, and application)
-TMDL development (schedule, point and non-point, modeling?)
-Watershed plan development (schedule, outline/format, proactive CD involvement, and state leadership)*
-BMP (state development [DEQ with NPSTF review], prescription and monitoring)
-Nature of regulation and enforcement in the NPS program
-Delisting a limited segment
-Likely influence on BLM and PL management

2:15 Break

2:30 Source Water Protection

-Wellhead Protection Program (general details, protections zones, extent of program deployment)*
-Source Water Assessment Plan (the State's role *[e.g., primacy]*, link in the SWPP provisions, why it is being funded *[e.g., saving money in waivers and reduced monitoring requirements]*, general details of plan, schedule, its use by PWSS, etc.)
-Likely nature of Protection Plans (likely link with TMDL program?, ordinances?)
-Nature of regulation and enforcement

3:45 Program Coordination All

-WDEQ's FY99 Monitoring Plan
-Review of schedule disconnects or opportunities for cooperative monitoring or

watershed planning projects

LOOKING AT WHAT IS ON THE HORIZON:

4:30 The Near Future for BLM's Water Program Schuler

-Continued program coordination with WDEQ (303d list evolution)
-Interpretation of S&G #5 guidance (WY IM-98-061) and looking holistically at the watershed
-CWAP priorities - more to come
-AML/Watershed initiative (funding, focus, coordination with State AML)
-UFP provisions (current FR process, key provisions, need for coordination with the State)
-SWP program (likely timing, likely BLM participation, potential influence on PL activities)

5:00 Close out for Day 1

DAY 2 AGENDA:

8:00 Meet in the parking lot to get final instructions for the field demonstration

8:15-12:00 Demonstration of the Beneficial Use Reconnaissance Process (BURP) monitoring method (site selection pending)

Presentation Team Needs:
-overheads and projector
-slide projector
-screen
-handout material-* (guidance notebooks, maps, overhead copies)